

1. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{3x - 7}{3} - \frac{-3x + 5}{8} = \frac{4x + 9}{5}$$

- A.  $x \in [3.1, 8.1]$
  - B.  $x \in [35.52, 40.52]$
  - C.  $x \in [1.38, 3.38]$
  - D.  $x \in [7.28, 10.28]$
  - E. There are no real solutions.
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2. Solve the equation below. Then, choose the interval that contains the solution.

$$-6(18x - 19) = -17(15x - 4)$$

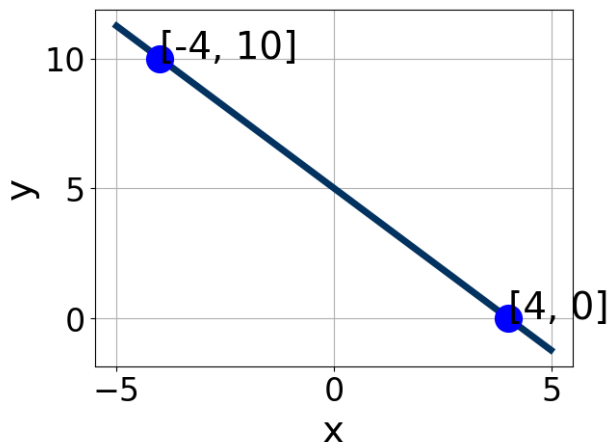
- A.  $x \in [0.61, 2.22]$
  - B.  $x \in [-0.62, 0.21]$
  - C.  $x \in [-0.07, 0.74]$
  - D.  $x \in [-1.89, -1.23]$
  - E. There are no real solutions.
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3. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$$(9, -4) \text{ and } (5, 9)$$

- A.  $m \in [-1.75, 6.25]$   $b \in [-11.25, -5.25]$
- B.  $m \in [-4.25, -2.25]$   $b \in [-18, -8]$
- C.  $m \in [-4.25, -2.25]$   $b \in [-1, 8]$
- D.  $m \in [-4.25, -2.25]$   $b \in [-33.25, -24.25]$
- E.  $m \in [-4.25, -2.25]$   $b \in [24.25, 31.25]$

4. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [4.7, 7.3]$ ,  $B \in [2.94, 4.93]$ , and  $C \in [18, 26]$   
B.  $A \in [-0.2, 2.9]$ ,  $B \in [0.43, 1.51]$ , and  $C \in [-1, 6]$   
C.  $A \in [-0.2, 2.9]$ ,  $B \in [-2.57, 0.34]$ , and  $C \in [-9, -2]$   
D.  $A \in [-8.8, -4.1]$ ,  $B \in [-4.81, -3.18]$ , and  $C \in [-20, -17]$   
E.  $A \in [4.7, 7.3]$ ,  $B \in [-4.81, -3.18]$ , and  $C \in [-20, -17]$
5. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $6x + 7y = 8$  and passing through the point  $(6, 8)$ .

- A.  $m \in [0.24, 0.9]$   $b \in [0.27, 1.74]$   
B.  $m \in [-1.49, -0.49]$   $b \in [14.55, 16.43]$   
C.  $m \in [1.03, 1.47]$   $b \in [0.27, 1.74]$   
D.  $m \in [1.03, 1.47]$   $b \in [-1.21, -0.14]$   
E.  $m \in [1.03, 1.47]$   $b \in [1.71, 2.97]$

6. Solve the equation below. Then, choose the interval that contains the solution.

$$-19(7x - 12) = -2(11x - 5)$$

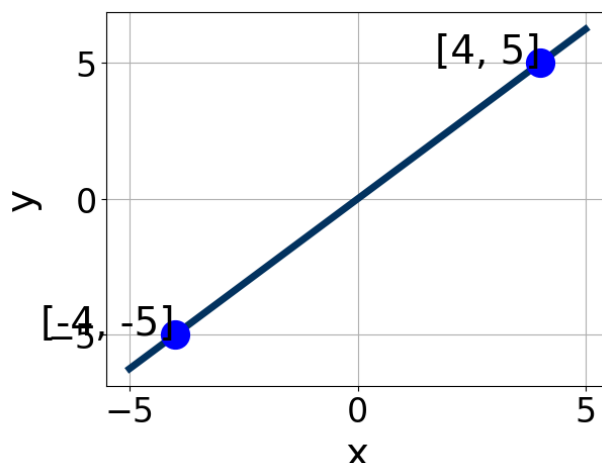
- A.  $x \in [-2.29, -2.1]$
  - B.  $x \in [2.13, 2.41]$
  - C.  $x \in [1.91, 2.08]$
  - D.  $x \in [1.43, 1.61]$
  - E. There are no real solutions.
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7. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $8x - 7y = 10$  and passing through the point  $(2, -2)$ .

- A.  $m \in [-1, -0.2]$   $b \in [-4.1, -3.8]$
  - B.  $m \in [0.4, 1]$   $b \in [-3.88, -3.55]$
  - C.  $m \in [-1, -0.2]$   $b \in [-0.03, 0.46]$
  - D.  $m \in [-1, -0.2]$   $b \in [-0.3, 0.01]$
  - E.  $m \in [-2.3, -1]$   $b \in [-0.3, 0.01]$
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8. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [4, 7.2]$ ,  $B \in [-4.7, -3.4]$ , and  $C \in [-1, 7]$   
 B.  $A \in [-5.9, -3.7]$ ,  $B \in [3.6, 6.8]$ , and  $C \in [-1, 7]$   
 C.  $A \in [-2.1, 2.8]$ ,  $B \in [-1.7, -0.2]$ , and  $C \in [-1, 7]$   
 D.  $A \in [4, 7.2]$ ,  $B \in [3.6, 6.8]$ , and  $C \in [-1, 7]$   
 E.  $A \in [-2.1, 2.8]$ ,  $B \in [-0.3, 2.7]$ , and  $C \in [-1, 7]$

9. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{-7x - 6}{3} - \frac{-9x - 4}{4} = \frac{-7x + 8}{5}$$

- A.  $x \in [3.1, 5.8]$   
 B.  $x \in [1.6, 2.2]$   
 C.  $x \in [-0.1, 0.3]$   
 D.  $x \in [6.9, 8]$   
 E. There are no real solutions.

10. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$(8, -11)$  and  $(6, 9)$

- A.  $m \in [-14, -1]$   $b \in [2, 8]$
  - B.  $m \in [6, 11]$   $b \in [-52, -48]$
  - C.  $m \in [-14, -1]$   $b \in [-21, -12]$
  - D.  $m \in [-14, -1]$   $b \in [66, 73]$
  - E.  $m \in [-14, -1]$   $b \in [-73, -68]$
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